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TYNE & WEAR

ATARI 8-BIT USER GROUP

Newsletter of TWAUG

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ISSUE #18

November/December 1995

U — S — E — R — G — R — O — U — P

THIS ISSUE IS DEDICATED TO DAVID EWENS

We regret to inform you that David died suddenly on October the 12th.

David is a great loss to us all, he was TWAUG, he made the newsletter what it is today, he lived for the newsletter and everything was build around it.

It was David who made sure that there was enough material for the newsletter and kept everyone informed when their subscribtion ran out. He looked around to find new PD material, he was dedicated to TWAUG.

We will keep TWAUG going but need your help so keep us supplied with material for the newsletter.

The advert on page 38 of this issue for TextPro 5.20x mentions that we will have a supply of the manual and disks at the show, unfortunately it is not possible to get it ready on time due to the extra work, without David! Anyone interested get in touch with us at the address below.

The phone number under the TWAUG's address on page 13 was Davids' number, please do not use it anymore.

If you have a problem and need to talk to a member of TWAUG you can ring - John on 0191 - 2626897, or Max on 0191 - 5866795.

T.W.A.U.G.
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TWAUG NEWSLETTER

EDITORIAL

Who to blame!!!

John Matthewson
David Ewens
Max Gerum

TWAUG Newsletter has been produced entirely on an 8-bit machine. The lay-out of the pages is done using TextPro 4.54 and Daisy-Dot 3 print processor. The master-copy is printed with a Citizen 120D+. I am using the 65XE machine upgraded to 1-Meg attached is the Black Box with a 40-Meg Hard Drive.

TWAUG is in no way connected with the ATARI Corporation, except using their product. Atari Logo used on the front cover is for information to our members only and is the Trademark of the ATARI Corporation. Opinons expressed in the TWAUG newsletter is not the Opinon of the TWAUG management but of the various individual authors.

The contribution fees for home and abroad:

HOME	1 COPY	£2.00
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--DO--	6 COPIES	£12.50
ELSEWHERE	1 COPY	£2.50
---DO----	6 COPIES	£14.00

REMINDER:

The book--The Complete and Essential Map--anyone unable to pay the full amount of the cash price can pay in instalments, whenever and whatever you can afford, at no extra charge.

The next issue will be ready by mid-January 1996

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130 KEYBOARD BLUES

by Neil Van Oost Jr.

I had just turned on my 130 XE to complete a Turbo Basic program I was working on, I typed in the LOAD....
Guess what! No Quote mark, no X, no half dozen other keys. Part of my keyboard had died.

If this happens to you, don't panic, there is a solution to try. All that is required is some patience, manual dexterity and some tools. Tools required are: 1)two needles ,2)two jumper wires with alligator clips on both ends, 3)an Ohm meter with a 1X scale, 4)an artist double 0 paint brush, 5)some Q-tips, 6)a magnifying glass, 7)some paper towels, 8)a bottle of COPPER PRINT, 9)a small cross point screwdriver the kind you clip in you shirt pocket, 10) a regular cross point with a small point.

The COPPER PRINT should be available at most electronic supply houses. Before you disconnect your 130 write down the keys that don't work. Now disconnect your computer. Pick a well lighted clean work space and lay down some paper towels to work on. On the bottom of your 130 are four screws, remove them. Now holding your 130 by the sides turn it over and remove the top and lay it aside.-

Before you do anything further, take a good look at how the keyboard sits in the computer, and how it is connected. The connection is on the lower right, it is a clear plastic ribbon with silver trace lines, that is stuck into a connector in the 130. Lay your keyboard over so you can get at the cable. Firmly grasp the ribbon cable on both sides close to the connector. Gently rock it back and forth until it comes free.

Place the bottom of the computer aside, were it will not be in the way and place the keyboard, key side down in front of you. Now, get up, have a coffee or a cold drink and relax a bit.

When you are ready to proceed, remove all the screws, about twenty or so -- I didn't count them, and place them aside were they will not get knocked on the floor or lost. Your keyboard will now separate into three parts, the metal back, the plastic sheet with the keyboard circuit and the part with the keys. Take your time and remember how everything came apart, if in doubt, make notes. You can now lay the part with the keys and the metal back aside.

Take another break as the most difficult part is yet to come. Look at the plastic circuit board, on one side the trace shows silver and the other black. Place it with the black trace up, then match up the trace with the key positions of the keys that were missing. Use the magnifying glass and look for a break. When you find the break, you must very, very carefully scrape the black away on both sides. Use a sharp pen knife or razor knife, but be very careful and use a light touch. All you want to do is expose about 1/8 of an inch of silver on each side. Handle the plastic circuit

130 KEYBOARD BLUES

board very carefully, try not to flex it to much.

Time for another short break. Get your bottle of COPPER PRINT and start shaking it, I recommend at least 3 to 5 minutes in order to get the copper particles well mixed. Now using the fine brush join the broken parts. Use the Q-tips to clean up any mistakes, making sure that no adjoining traces were bridged. When you are satisfied with your work and have allowed at least 10 minutes for the COPPER PRINT to dry, set up your meter on the Rx1 ohm's scale, use the jumpers to go from the probes to the needles. Now very carefully touch the trace on both sides of the break, you are looking for zero ohms. Remember to zero your meter before you start.

Reassemble your computer. Be careful not to over tighten the screws on the back of the keyboard and make sure you plug it in straight and it makes good contact. Power up your 130, with a little luck, your repair job is finished. If the problem still exists, you will have to do the whole procedure over again. I had three attempts and took about 2 1/2 hours before I finished mine.

If you don't think you can do the above seek help, preferably free help as a last resort. Remember it will cost $40 to $50 if you have to have it done by a service center and if you botch the job it will only cost around $60 to $80 to pick up a used 130. The risks are worth it.

GAME REVIEWS

By Kevin Cooke

Hello, here I am again with more interesting, intelligently written and exciting reviews (well, I can kid myself, can't I?!!). For once, I will keep this intro short as the column is very long this issue. So, here are this issue's reviews:

Title: BARBARIAN
Sold by: Micro Discount,
265 Chester Road,
Streetly,
West Midlands B74 3EA,
ENGLAND.
Tel:0121 353 5730
Price: 4 Pounds (+ P&P)

You may have heard of this game before if you have been computing for a few years, especially if you ever took an interest in the Atari ST or, shame on you, other machines! Basically, Barbarian was a "beat 'em up" which was originally released on other machines but has now been written for the Atari 8-bit (without the original company's knowledge, I suspect - hush hush!). Having seen it years ago, I was eager to find out what the Atari version would be like and so was willing to forgive the very long disk loading time before the title screen appeared.

The first thing which you see when the game is fully loaded is this reasonable, but not entirely exciting title screen. The colour scheme is made up of black and different shades of green. A musical piece plays in the background which is not bad but, unfortunately, is made up of "blips" and "blops" and does not

GAME REVIEWS continued

exactly get you interested! A press of the fire button blanks the screen and more information is read from the disk. What, more waiting?!!

This short loading session (of about 5 seconds) loads in one of several background scenes. These backdrops are graphically very good although, again, only in shades of one colour. However, one nice feature is that the same creature is always in the background watching the fighting - a nice effect that adds atmosphere, as if he is overseeing the fight, waiting to set the winner free. In the foreground are stood two quite large, well defined fighters. Overall, I was impressed with the in-game graphics. But what about the gameplay? Well, depending on whether you selected the one or two player game from the main menu (this feature is NOT very clear but it seems that by pressing SELECT on the main menu, the "10" at the top will change to a "20", activating the two player game. Don't ask me where the extra zero comes from!), what happens next will vary. If a one player game was selected, as soon as you move your joystick, the computer controlled fighter will start attacking you. If a two player game was selected, it is obviously the choice of the players as to when they move!

The computer controlled player is always VERY difficult to beat - he lays into you so quickly that you're dead on the floor in a matter of seconds! As you play more, it does get a little easier but, unfortunately, not much! It seems more like you need to use the correct series of moves on your opponent, rather than just randomly picking moves and hoping that you win. On the other hand, a two player game is much more exciting if you can find someone else to join in - in fact, it can be quite addictive.

The range of moves available is good, with sword attacks, head butts, kicks, rolls (no, not the edible sort!) and blocks all available. The animation used throughout is also very smooth and lifelike - watch out for when you don't touch the joystick and both players will turn towards you and move their mouths as if telling you to get a move on! The sounds in the actual game are not bad - in particular, the sounds made when the player's swords clash is very realistic. My favourite move it to lop the player's head clean off! A timer at the top of the screen constantly clicks away whilst the player's energy bar is depleted with every hit he (or she - I'm no sexist!) takes. A high score table has also been added for good effect.

Overall, I enjoyed the game. It doesn't have the long term appeal of International Karate, for example, but certainly contains enough to keep you interested! Why not give it a try? At this price, it's worth a look.

Title: DEATHLAND
Sold at: Micro Discount
(see above for address)

GAME REVIEWS continued

Price: 4 Pounds (+ P&P)

Deathland is one of the newest platformer games from Micro Discount. Whilst the game is loading, you are greated with a polish game credits screen. However, soon the main title screen apears. "Deathland" is written at the top of the screen in very large letters (incidentally, with a nice reflection effect - smart!) whilst a scrolling message travels in the usual manner underneath - unfortunately, this is in Polish and so of no interest to most people! A tune plays in the background which, although atmospheric, isn't really tuneful enough to listen to!

A press of the firebutton starts the actual game. The music continues to play in the background and the game screen appears. The graphics here are not bad. The only colours used are blue, red, white and black so, as you could imagine, the screen does look just a little unclear at times. However, a lot of effort has been put into the actual graphics. Your main character is a well defined robot-type character - just leave the joystick alone for a few seconds and he will turn to face you, showing off his true robotic front-panel. The robot's enemies are also quite well defined and include flying dragon/bird type things (complete with flapping wings), tanks, wall mounted guns, bouncing boulders, etc. A press of the fire button will make the robot throw what appears to be either an old-fashioned hand grenade or a sword - I can't quite make this out. One hit from this and the nasty will explode!

Your character is well animated - when you turn from left to right, for example, he lowers his hands (or are they guns?) before turning and raising them again. The short piece of animation does slow the turning process down but also make you think ahead, increasing the game's difficulty level.

You start off with three lives (depicted by pictures of your robot) and each time you touch an enemy, a section is removed from the top of the life-robot. When there is none of the robot left, that life is lost. When all lives are lost, the game ends.

I don't have any instructions for this game but I think that the object is to rescue the prisoners who can be found tied-up around the complex of tunnels. Speaking of the tunnels, there are an awful lot of them - the game appears to be very large.

So, the graphics and sound are good but nothing spectacular. On the other hand, the gamplay is definitely there and you'll soon find yourself addicted to it and wanting just one more go! Overall, I recommend this game for anyone with an interest in platform games.

Title: TOP SECRET
Sold at: Micro Discount
(see above for address)
Price: 4 Pounds (+ P&P)

Top Secret is one of the only horizontally scrolling walk along

GAME REVIEWS continued

shoot 'em up on the Atari 8-bit. Although popular on other machines, the idea never took off on the Atari for some reason. So what is this example like?

The game starts off with a long load, seemingly typical with this issue's batch of software. Eventually, a nice screen appears. In the background is a scrolling starfield whilst in front is a scrolling message (in Polish?). A nice piece of music is also playing. At the top of the screen is a constantly changing picture depicting the scenario for each level. By pressing a key on the keyboard, the disk starts reading, yet again....

This time, what appears IS the main title screen. The letters spelling "Top Secret" have been removed from a panel at the top of the screen and this panel keeps flipping over - a nice effect. The credits are below this and, as a nice gesture to those of us that don't speak Polish, an English scroller is shown. A press of the fire button from here reveals the main game screen.

Disappointingly, the graphics here are not as good as I would have expected after the nice title screen. At the top of the screen are a series of slowly moving clouds. A black strip seperates these from the fort pictured below (made up of various shades of brown) which is then followed by another black strip. Finally, the ground on which the player's character stands is at the bottom of the play window, made up of different shades of green. Each of these sections would look very nice if placed together but the fact that they are seperated by the black strips really brings the presentation down.

The character which you control is a quite well defined sprite, made up of different shades of green. Unfortunately, this does tend to mean that he is slightly unclear when he is walking on the same-coloured green floor - it would have been much better if he was differently coloured. On each screen, an enemy soldier and usually a tank move onto the screen. These are both well defined (although the tank should be larger than the man, I think - it's much too small!) and are both a threat to your characters life. The only defense which your character has is to shoot his gun at them. Unfortunately, the enemy soldier also does the same to you whilst the tank is always trying to drive over you - the only way that you can avoid these dangers is to jump over them. Contact with either the enemy soldier, tank, or gun fire will decrease your character's energy bar. Three more are in reserve but, when all of these are gone, your character is dead.

On some screens, special items are placed on the far right side of the screen for your character to pick up. These include uzi's, machine guns and extra energy. The uzi and machine gun obviously has more power than the pistol which you start off with but they also have a limited number of rounds - when these are all fired, your character reverts back

GAME REVIEWS continued

to using his boring pistol!

At the bottom of the screen is your character's vital information such as energy levels, rounds remaining of your weapon and a picture of the weapon in use. When you die, a picture of your dead soldier is displayed. A high score table is also included.

Although the game is addictive, it could be much better. There is no music during the game, only a few poor sound effects - a lot more are really needed. The game would also be much more fun if the screen scrolled, rather than flipped. Also, you can't advance to the next screen until you've killed the enemy soldier on the current screen - a bit of a pain seeing as the soldier takes a LOT of shots to be killed. In the end, the whole process get's a bit repetitive! Also, the bonus items which are left on the right side of the screen is all too easy to walk over and miss - before you know it, you're in the next screen and can't go back to get the much needed machine gun or extra energy!

Unfortunatly, I'm a little bit dubious about recommending this. It's certainly NOT rubbish, but it's no where near as strong as the other offerings this issue. If you have money to spend and already have everything on offer then you could do worse. However, if I were you, I would seek out either GREEN BERET for a similar but better version of this game type or go for one of the other games reviewed in this issue.

Sorry, but I'm going to have to cut myself off for this issue. Next issue I hope to be including reviews of yet more new games. Keep your eyes peeled! (Please Note: Neither TWAUG nor Kevin Cooke can be held responsible for the actions of anyone who really tries to peel their eyes - if in doubt, DON'T!!!). For those who don't see me at the next AMS show (look out for the weird person, walking around the hall in an "Exeter SKF" sweatshirt if it's cold - it normally is!), I'll see you next issue. However, try and make it along to the show - there'll be plenty of bargains!

TAB-MAP

By Robert Deletter.

Two utilities I use for housekeeping purposes required to stop the cursor at different stop positions. It soon bothered me pressing the CONTROL-ARROWS keys to find the correct position in a column. So, I thought the TAB-key must be able to do the job for me. As always, 'Mapping the Atari' brought the solution. This Compute book from Ian Chadwick is the necronomicon (unlimited power) for us Atari 8-bit users. Memory locations 675-689 contains that power to solve my problem.

As we all know, a physical line in Atari basic contains 120 characters and because the screen width is only 40 characters long there are 3 logical lines in one physical line. Yes, it is possible to set different TAB stops for each

TAB-MAP continued

logical line.

You must poke the values for the first logical line in locations 675-679. The next 5 bytes are stored in locations 680-684 for the second logical line and yes, locations 685-689 are used for the third logical line. In most cases the same values must be poked for each of the logical lines. Keep in mind that the leftmost screen edge is also a valid TAB stop (to prevent this use 'POKE 82,0' in your program).

How does it work ?

First write down 40 zeros (screen width).

0000000000000000000000000000000000000000
Then replace a zero by a '1' for every TAB stop. In my case :

0000100000000010001000001000000100001000
Then break it into 5 groups of eight bits (8 bits is one byte) :

00001000/00000010/00100000/10000001/00001000

Now we have 5 bytes in binary format. Use a binary to decimal converter to find the correct decimal values. Page 178/179 in the revised edition of 'Mapping the Atari' contains a complete list of binary-hex-decimal numbers.

What do we have now :

Binary	Decimal
00001000	= 8 -> POKE 675,8]
00000010	= 2 -> POKE 676,2]
For the first	
00100000	= 32 -> POKE 677,32]
logical line.	
10000001	= 129-> POKE 678,129]
00001000	= 8 -> POKE 679,8]

Eventually poke the same decimal values in locations 680->684 for the second and obviously locations 685->689 for the third logical line.

Pressing RESET or changing GRAPHICS modes disables your work and enables the default settings.

USEFUL TIPS

Submitted by Robert DeLetter.

- POKE 54018,52 starts the cassette motor. POKE 54018,60 will stop the motor.

- To reboot the computer -> POKE 580,1 [RETURN] and press RESET.

- A fast cursor: POKE 729,16:POKE 730,2 [RETURN] (XL/XE).

- A=USR(58484) causes a warmstart and A=USR(58487) a coldstart.

- PRINT PEEK(53770) gives you a random number between 0-255.

- POKE 622,255 enables fine scrolling.

- With this line you will hear the console speaker:
FOR A=1 TO 20:POKE 53279,0:NEXT A [RETURN]

USEFUL TIPS continued

- This command will show you the line number where your program was interrupted:
LIST PEEK(186)+PEEK(187)*256 [RETURN]

- Writing text in graphics 1 or 2 -> GRAPHICS 17 (or 18):POKE 87,0 [RETURN]

- Disabling the Break key -> POKE 16,64:POKE 53774,64 (after every GRAPHICS call).

- With this line nobody can list your program ->
FOR X=PEEK(130)+256*PEEK(131) TO PEEK(132)+256*PEEK(133):POKE X,0:NEXT X.
Then save your program, load it and try to list it !

- No blips during TAPE/DISK In/Output with : POKE 65,0. POKE 65,2 and you will hear the baud I/O again.

- To prevent the attrack mode POKE 77,0 - To enable it POKE 77,128.

- Do you wish punctuation, lowercase or numbers in your filenames ->
POKE 3818,33:POKE 3822,123
- Rewrite DOS then reboot the computer with this modified DOS.

- Ramtop reset with POKE 106,PEEK(740):GRAPHICS 0 [RETURN]

- To chain a binary file to an AUTORUN.SYS: go to DOS and press 'C', then type:
Filename.ext,AUTORUN.SYS/A [RETURN].

- This line load and start a binary file from basic:
OPEN #1,4,0,"D:FILENAME.EXT":
X=USR(5576)
(Only with DOS 2.5; some programs will not run).

- 'LET' PERMITS you to use commands as variables -> e.g. LET GOSUB=10.

- Printing out a disk directory: go to DOS, press 'A' and type, P:[RETURN]

- In Basic you can disable Basic: POKE 1016,1 [RETURN], then press RESET.

- In DOS you can list your program: press 'C', then type D:FILENAME,E: [RETURN].

- Reboot DOS with POKE 202,1 [RETURN] and press RESET.

- No keyclick -> POKE 731,1 [RETURN]

- A full stop replaces a REM -> e.g. 10 .

- In DOS add a /N to the filename to delete that file without the query 'Y' to delete...

- In DOS you can write text (one line!) to a file:
press 'C' [RETURN]
type E:,FILENAME [RETURN]
(Return ends a line and CONTROL 3
will close the file.)

- Try to POKE 0,1,....or 7 in location 755.

- Save your programs without

USEFUL TIPS continued

the DOS 2.5 verify option (Faster!): POKE 1913,80. Go to DOS and rewrite DOS.

- Use your printer as a type-writer (instead of the screen): S1=PEEK(838):S2=PEEK(839) POKE 838,PEEK(58422):POKE 839,PEEK(58423).
Go back to the normal sceen input
with -> POKE 838,S1:POKE 839,S2

- A ramdisk for 800XL with DOS 2.5:
1) POKE 1802,PEEK(1802)+128
2) GO TO DOS
3) PRESS 'L' AND LOAD RAMDISK.COM
4) FORMAT DRIVE 8
5) DELETE D8:DOS.SYS
6) GO BACK TO BASIC
7) POKE 5439,56
XL owners now have a ramdisk with 101 free sectors.
Because I do not own an 800XL I wasn't able to check this tip).

- If ,during loading, a file produces ERROR 164 (file mismatch!) you're still able to load that file with:
POKE 4148,234:POKE 4149,234 [RETURN].
Now load the mismatched file (eventually with errors).

- POKE 16,255 completely disables the keyboard.

- A=USR(3352) formats a disk from basic. (Unmodified DOS 2.x !!)

- INPUT #16,A instead of INPUT A leaves out the '?' query.

- Adding POKE 53768,1 to a SOUND command produces (sometimes) an amazing sound effect.

MUMBLINGS OF A HARDWARE HACKER

By Matthew Preston

ZZZZZzzzzz....sniff....zzzzzz....sniff, sniff..... "F I R E". I jump from my bed flapping my arms about in a frenzy hoping somehow to hit the light switch. "O U C H S#£&%$!!!" my foot touches the red hot soldering iron that is turning my bedroom carpet into a single blob of nylon. I pull the plug from it's socket F#"$%£&'!!! my body becomes one with the National Grid....

This all came about after trying a little D.I.Y. 800XL style. Having seen upgraded machines at the shows yours truly decided to have a go, BAD idea after a few cans of Strongbow (Medicinal purposes only). It's after this I decided the best policy is to let someone else do all the hard work for you.

Now don't get me wrong upgrades are all well and fine if your into that sort of thing, I am, I'm just not terribly good at it. Being a country lad at heart dexterity is not one of my strong points (BUCKS born and bred, strong in the arm.....). I tend to spend most of my time at shows hunting for gadgets to add to my 800XL, my aim ? to fit as much as is possible into an Atari 8-bit. You have to be careful though my trusty 800XL that ran for a perfect 10 years burnt-out after I added too much to it. Undeterred though I purchased an 800XL from one of the stalls at SAMS 95 with a view to expanding it further, a bit of a challenge though as it is what is known as an 800XE, 800XL out

MUMBLINGS OF A HARDWARE HACKER continued

side, XE bits inside allover the place not helped buy the memory upgrade using surface mount technology and simms, plus it didn't work properly.

'Oh Dear!' I exclaimed when I turned it on and the screen rolled. Thinking it must be some kind of mis-connection inside I heat up 'Excalibre'(my soldering iron) and start poking around inside my new purchase. Seeing a wire soldered to the 0v part of the motherboard I decide this must go, psst there it goes, screen stops rolling. Fixing a switch between 0v and this dangling wire must have been a piece of luck as it appears that it controlled the Antic access to the memory upgrade. Trying out a few demos I find my 320k wonder machine is still operative and almost 130XE compatible, German progs see the extra memory, others don't, Hmmm means I'll have to write my own software 'S#$%&£'. Now content that all is well I decide it needs just a bit more added. Fumbling through another dead 800XL I come accross a Tripler Board complete with two O.S. on it, BASIC rev C and a 400/800 XTOS/TOOL device. In it goes Tripler Board in place of one of the O.S. place O.S. in tripler and tis done. My 800XE now has 6 operating systems! WHY you may ask. Well it fits, that all that matters, Warp Speed, Omnimon, Cupid, 400/800, Rev C and Rev C/2 (the one with the modified Self Test routine).

As you have probably guest I have no electronic background whatsoever, it makes it more of a fun hobby for me. The one piece of advice that I can give is to leave your Atari alone, buy a modified machine at one of the shows and work on that. I own an expanded 65XE and I leave it untouched just in case my handy work decides to blow up. You can pick-up working 800XL's etc from around 20 pounds at AMS and for hours of fun there's plenty to be done to it.

Oh and one final thing, don't be like me. Upgrades can be expensive so take your time and do it properly. I's a lot safer that way.....zzzzZZZZZ

Be seeing you!!

THE OL'HACKERS ATARI USER GROUP INC.

O.H.A.U.G. is an all 8-bit user group in the State of New York U.S.A, they are producing an excellent bi-monthly double sided disk based newsletter which is full of articles, programs, etc...The disk has its own printing utility which lets you read the content on screen or make hard copies. A large PD Library is also available.
For more information contact:
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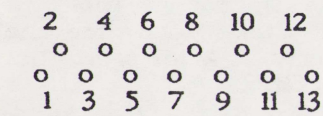
HOMEMADE MIDI INTERFACE
for the Atari 8-Bit

by Christopher Terpin

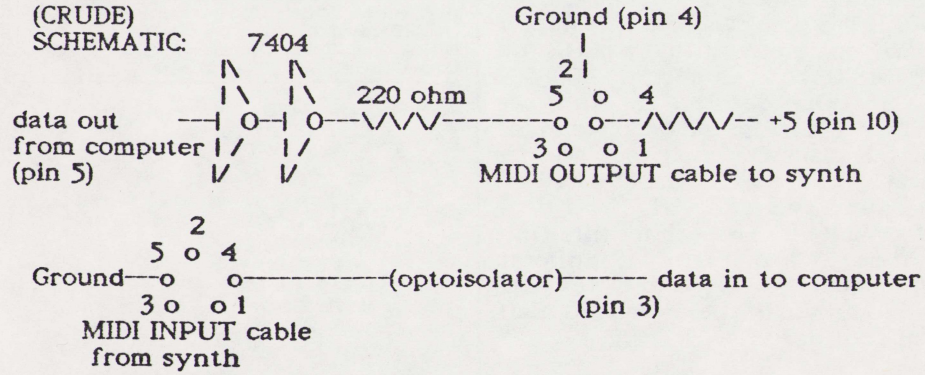
Parts List:
1 7404 TTL Hex Inverter OR 7400 NAND gate
2 220 ohm resistors (10%)
1 Atari serial port plug for your computer
2 5-pin Midi plugs (RCA) for your midi keyboard
1 breadboard/experimenter perf board
1 project case
approx. 10 ft. of 3 wire cable
twist ties to tie down wires etc..

The serial port pins as seen on the computer are:



1 - Clock In
2 - Clock Out
3 - Data In
4 - Ground
5 - Data Out
6 - Ground
7 - Command
8 - Motor Control
9 - Proceed
10 - +5V
11 - Audio In
12 - +12V
13 - Interrupt

For this project, we will only need to use pin #'s 3,4,5, and 10 of the serial port.



Pins 1,3 of the Midi Output cable and pins 1,2,3 of the Midi Input cable are not connected.

HOMEMADE MIDI INTERFACE continued

The optoisolator is optional, although it is recommended for extra protection for your midi keyboard. I have used the interface hard wired without the optoisolator without any problems (so far).

Also note: the normal serial I/O to the disk will sometimes interfere with the midi interface and vice versa. This sometimes results in a note sounding on the synth when loading or saving a file, or the disk will glitch if you try playing the keyboard during disk I/O. One possible way to remedy this annoying problem is to replace the 7404 with a tri-state buffer which can be turned to a high-Z state using the motor control (pin 8) from the serial port.

Anyway, BE CAREFUL and check all your wiring before you hook the interface up to the synthesizer.

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SOUND SAMPLING

By Matthew Preston

Sampling is not only fun, but a useful element to add to your own software. It can be sequenced to make your own music or to make spot effects more realistic.

Equipment if very difficult to get hold of, as the REPLAY cartridge is as far as I know out of production. I find my REPLAY cartridge to be of excellent quality. If someone offers you PARROT II don't buy it, it cost me twice as much as REPLAY and it's rubbish. PARROT II suffers terribly from radio wave and magnetic interference and its sampling quality is naff.

To get a completely crisp recording your Atari MUST be on a clean mains line, use a spike plug and/or mains filter, the same goes for your HI-FI. When making a recording monitor sound from your computer using external speakers and turn off the telly. Your television is the most destructive piece of hardware you own, it can wipe disks at a stroke, give you static shocks and create so much magnetic interference that when you try to sample, all you get is a high pitched whistle and static when you play it back.

Remember the cleaner the sound source the better, CD is best. If you get a good commercial recording, tapes can be very acceptible, but only if the sound is not too complicated, Rock music is not clearly defined enough on tape to be sampled that well,

SOUND SAMPLING cont

again CD is best. Also REPLAY samples at 8-bits and only plays back at four bits so the resolution is effectively halved. The Atari 8-bit has the ability to play CD quality sound as the pokey has 16 bit channels as does a CD player, there just isn't the memory or hardware available to demonstrate it. MOD files come close as they use a recording from AMIGA/ST downloaded to the Atari 8-bit but even so the quality is far from what can be achieved with the hardware used to the full. Well, that's enough for now, happy sampling...

Be seeing you...

THE XEP80

by John Castravet

I had waited a long time for the release of the XEP80 card for the Atari computers, that was back in the eighties. For all of that time I kept on feeding on various speculative articles that appeared in ANALOG Computing and Antic, The Atari Resource. All that talk about a built-in 16K or 32K of memory, increased horizontal resolution that would have made the 8 bit GEM a possibility.

Finally, when I had received mine via UPS, well what a disappointment. No 32K memory built-in, not even 16K.

The horizontal resolution is still kept at 320 in graphics mode, while in text mode a matrix of 5X9 including descenders makes itself barely noticeable. That

THE XEP80 continued

means that text looks almost the same as any good public domain 80 column simulator software in the public domain and on most bulletin boards. Well, maybe a little better. All this on a monochrome monitor. On a color monitor the quality is somewhat less, but the difference is not dramatic. If the signal is fed into the luminance input of a monitor with separate luminance and chroma inputs, versus the composite NTSC input of a color monitor, the quality is a little better with the former monitor. But still the picture is white on black. Oh, yes, or black on white.

There was a hand written note in the package attesting to the fact that only software that uses the legal CIO vector to the E: and S: devices will work with the XEP80. This sounds like passing the blame to software authors. Of the little software that's left and supposed to be working with the XEP80 (software that does legal screen or editor access), most of it will still not work, at least properly. Why? Gone are all the features that made the Atari computer a superior 8 bit machine. Features as Display List Interrupts, Vertical Blank Interrupts and Player/Missile Graphics are all gone. They probably went to join the SETCOLOR and DRAWTO commands. All these are still accessible in the 40 column mode, but... Also gone is the <BELL>, CHR$(253) sound.

The above mention note also said something about having to re-adjust the horizontal hold of the

THE XEP80 continued

monitor. I had to re-adjust the vertical hold, while the horizontal hold just moved the picture to the right of the screen to bring in the 2 characters that were otherwise missing. The display is supposed to be 80 columns by 25 lines. A simple count revealed that it displayed about 74 columns by 23 lines. Now, this cannot be a problem with the monitor itself, since it displays the standard Atari video output in 40 column by 24 lines with ample amount of border around. Even when the 25 line from ICD's RTime 8 is displayed there is still border left on the top and bottom of the picture. So the XEP80 is over-scanning. Incidentally, forget about the familiar time and date display if you are using SpartaDos and RTime 8.

Then there is the built in printer interface. I wonder how many Atari users out there who own a standard printer (parallel Centronics) do not have some kind of Atari 850, ICS's P:R Connection or some other type of printer interface. This feature alone will probably not make somebody look into the XEP80 more deeply. They might as well stuck on the front of the box an LCD watch, the type that is used these days on almost everything.

In conclusion I view the XEP80 more like a gimmick.

Atari should have used the parallel port instead of the joystick port, and designed it in such a way that it keeps up with the reputation the Atari computers have gained based on their graphics capability. It should have a separate chroma/luma output as well as the composite NTSC one.

THE XF-551 DRIVE

Atari's XF-551 certainly has been quite a surprise to many. I have seen many comments concerning it, and thought I would offer some of mine as well.

The drive is just about the same size as the 1050, but not quite as high. It uses a generic-type double-sided direct drive mechanism which is nice and quiet, compared to some 1050's. The drive uses the standard 9V AC power supply used for the other 1050 and 810 drives. The back of the drive does get nice and hot, just like the 1050s, but that did not affect the drive's operation when I left it running for a month solid.

The drive runs a little faster (300 RPM compared to the standard 288), but Atari adjusted it by clocking the controller a little faster. So there is still the same amount of data in the same format on the disk.

Now we get into compatibility. Atari has done a fair job at making the drive compatible with the 810 and 1050. There is only one flaw I found. The missing sector bit in the status bytes does not reflect a missing sector correctly. This should have been simple enough to do, but they did not. Because of this, there ARE

THE XF-551 DRIVE continued

protected disks that will not load on a XF-551. I do not have the titles with me at the moment, but any program that looks for a missing sector status will probably not work.

The next subject is double density. Finally, Atari has come out with a true double density drive, which will read other double density disks. However, there are some problems here also. To determine the density of a disk, normally you read sector 1, and then issue a status request. One of the status bytes will then tell you the density. This works fine for the XF-551 when it is in single or enhanced density, but not always for double. Instead, double density comes back with a status of enhanced. Once you use the set density commands, the drive may be set to double, and the status will be correct. Just don't go back into single, or you'll have to manually set the density again. To summarize: If you use single and double density disks, the drive will have a very hard time going into double. Since SpartaDOS has no way of forcing densities, this can be a real problem. The only way I've ever seen it doing it automatically is when booting a double density disk. (Note: I did figure out a way to make the drive reconfigure: It is used in Diskcomm 3.2)

The drive is capable of double-sided operation, giving you a possible 360K storage when using double density. (Of course, you must use MYDOS or SpartaDOS because the DOS 2.5 comes with none of this supports.) I found it strange that it will not use double-sided operation in single or enhanced density.

Also another thing to think about is, it uses the index hole of your disks for timing. This means you cannot use those cheap hard-sectored disks anymore, and cannot write to the back side of the disk like you did with your 1050, 810, etc... Now this really doesn't matter if you use its double-sided capabilities; but if you want to make up a disk for your club or friend who has a 1050, and wish to use the back side, you are out of luck.

The High-Speed disk I/O the drive boasts, is very similar to Happy's 810 warp speed. Although not as fast as ICD's UltraSpeed, this is fast. The set-up is similar to UltraSpeed: You must format with a special sector skew for optimum speed, which will be slow when high-speed software is not used. Strangely enough, the drive only has a special sector skew for double density, even though the exact same command is used for single density. I have been able to read single density disks formatted with UltraSpeed sector skew quite nicely on the XF-551. As of now, the only programs I am aware of that makes use of the high-speed capabilities is my Disk Communicator program version 3.2, and THE ULTRA SPEED + OS.

Unfortunately, Atari did not make the drive for expansion. It uses a MCU chip that takes the place of many chips the 1050 used. Because of this, and because it's not 6502 based, I don't think you will see any products such as the Happy or Super Archiver available for it for a while.

A SORT OF ISO-BAR CHART

Andy Doran uses Mini Office II to chart our wonderful weather.

In last issue we set up a spreadsheet containing lots of data about the weather. It would be nice to see the fruits of our labour pictorially, and this is the task for which the graphics program was written.

Let's take the data you've already entered into the spreadsheet and display it graphically in preparation for a report of holiday brochure.

Before doing this it's a good idea to obtain a printout of the spreadsheet. This will make the collation of the graphics data much more simple, and is shown in figure 1.

A number of sets of data could be used to create the graphics. For instance, it would be interesting to see the average, best and worst results in each category compared.

Looking at the printout, we can see that the columns that contain these items of data are I, J and K. The titles for each value appear in column A. This is all the information we need to save data ready to load into the graphics program.

After selecting the option to save graphics data, the first question that is asked is Select from Row/Column. As we have seen, the data is in columns, so enter C. You are then asked for the column in which the headings appear, so type A in answer to this question. Finally, you are asked to give the column in which the data is stored - column I.

Once you have answered these questions you will be presented with the values in individual cells, the cell number (I1) and the contents of the cell.

You have to state whether or not this cell is required by answering Y or N. answer N for cell I1 and Y for cells I2 to I5 and then press Return. Finally you are asked for the filename in the same way as when you saved the spreadsheet. Enter the filename as AVERAGE.GRA.

Repeat the process for the two columns BEST and WORST. Again for easy reference, save these as BEST.GRA (column J) and WORST.GRA (column K).

You can now leave the spreadsheet and move on to the graphics module. Make sure you have the Mini Office II disk in the drive, select the Mini Office II menu and from the next screen choose graphics.

The three sets of data you saved - AVERAGE.GRA, BEST.GRA and WORST.GRA - should be loaded into data sets 1, 2 and 3 respectively. This is achieved by selecting Load Data and then indicating the data set number and giving the filename (make sure your data disk is in the drive).

Note that when you load data sets 2 and 3 the old filename must

A SORT OF ISO-BAR CHART continued

first be deleted or edited before the new one is entered.

With the data sets loaded, you can now draw some graphs so let's obtain a bar chart comparing all three sets of data.

Selection Bar Chart gives a white screen with a set of icons down the right hand side. You need to tell the computer that you wish to use all the data, because if you don't only one set will be used. To do this, select the icon that reads Option (using the arrow keys and Return as we do to select a menu option).

Next, select the Data-icon. This will prompt the computer to ask how many sets are to be used (the question appears near the bottom of the screen). Answer 3, to this question, and then define the primary, secondary and tertiary data sets as 1, 2 and 3 respectively.

Once you have done this, pressing Escape will take you back to the first set of options, with the top icon representing a bar chart. Select this, press Return, and the bar chart will be drawn on screen.

Label it by choosing the pen and ink icon and entering the required text. Press Return, and position it by using the cursor keys. Confirm the position with Return.

Now you've got a graphical display of the data, it might be useful to obtain a printout. You do this by selecting the Screen option icon (the one with a picture of a TV screen on it) and you will be presented with a further set of icons.

To print the screen, select the one bearing a picture of a printer. The computer will ask whether you want the printout on a printer or to a disc - press P to indicate a printer.

You now have to answer the question Atari 1029 or Epson by pressing either A for Atari or E for Epson or Epson compatable printer and once you do this the computer will dump the screen to the printer (see figure II).

This method can be used to create a line graph like the one shown in figure III. As the primary, secondary and tertiary data sets have been defined, there's no need to define them again.

Only one set of data is used at any one time but experimenting with the various options produces results like those for the pie chart shown in figures IV and V.

Now that you have used the graphics program and spreadsheet together once, you should have no problems repeating the process again to create other spreadsheets - perhaps even an accounts spreadsheet with pie charts and bar charts to liven it up a bit.

A SORT OF ISO-BAR CHART continued

Figure I: A typical weeks weather

	A.....	B.....	C.....	D.....	E.....	F.....	G.....	H.....
1		MON	TUE	WED	THU	FRI	SAT	SUN
2	SUN (hours)	8	7	7	8	9	8	9
3	Rain (inches)	3	2	3	3	1	0	1
4	Temp (best)	29	28	27	31	32	28	33
5	Temp (worst)	24	24	25	26	25	26	27

	I.....	J.....	K.....
1	AVERAGE	BEST	WORST
2	8	9	7
3	2	3	0
4	30	33	27
5	25	27	24

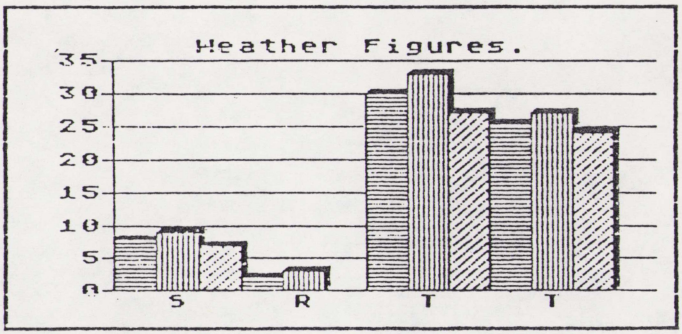


Figure II: Bar chart

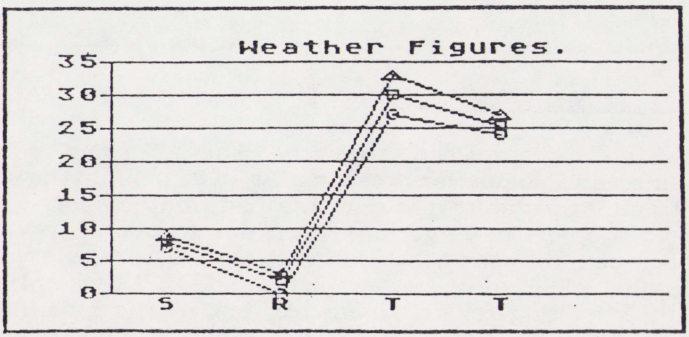


Figure III: Line graph

A SORT OF ISO-BAR CHART

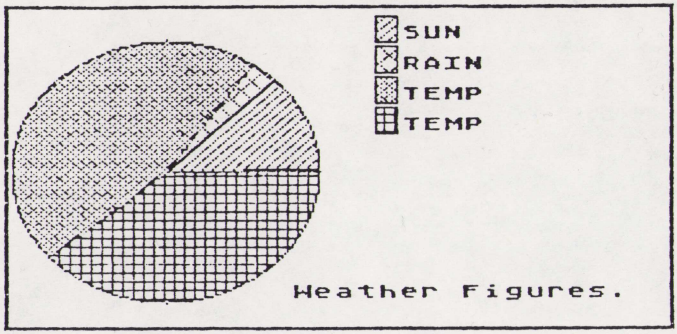


Figure IV: Pie chart

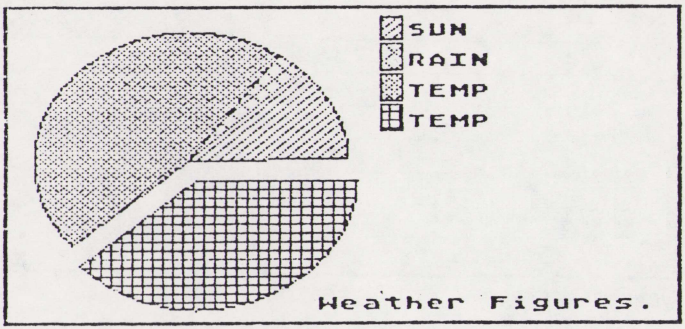


Figure V: Segmented pie chart

APOLOGY from TWAUG

You probably have noticed that in issue 17 some columns had distorted lines and some lines, especially in Cracking the Code, were very faint and unreadable, it is due to a bad photocopier.
Our two photocopiers have gone on sick, due to overwork and old age. I, (Ed) have been informed, by John, that one of the two has now passed on; died of natural causes, "sniff, sniff". Now, only good for spares. John is looking for replacements, but in the meantime he had to use his works copiers and as you can see is not up to a very good standard.

DON'T LET BASIC BUG YOU!

By Mike Bibby.

Part 1

Over the last few months, we have had a number of new subscribers who have just bought their first Atari computer. We have been asked if we could run a series on Basic for the absolute beginner.

We think that this series of articles should fit the bill, and we hope that all of you more advanced Basic programmers will bear with us as our main aim is to try and cover as many aspects of the Atari as we possibly can. You never know, these new Atarians could come up with some very interesting programs in the future.

Programming is easier than you think - and doubly so if you follow Mike Bibby's chrystal clear guide through the micro jungle.

How do I begin? You must have noticed that some people take to computing like ducks to water, or an output port to an interface, as they would say.

Words like byte, strings and user-defined functions flow freely from their lips. They pass parameters and handle interupts with ease, then get their hands on the peek and poke in a way that beggers belief!

You, I take it, are not like that. You are not a computer "natural". But you would dearly like to be.

Well fear not, this series is for you, and it was written by one of your kind.

I, too, have sat at a keyboard, watching the cursor without having any idea of what to do next (or even knowing it was called a cursor).

I also know what it's like to have someone explain something to me in the "simplest possible terms" and still find it way above my head. Yet I now program reasonably well...and so can you. Read on!

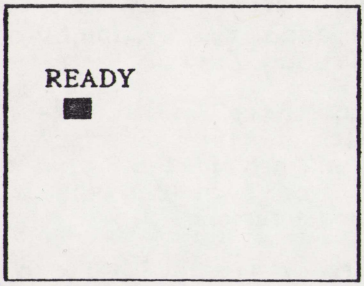
Let's assume for a start that you are seated in front of the computer which is already plugged in, connected to the TV and tuned in correctly.

Some versions of the early Ataris will need a Basic cartridge plugging into the left cartridge slot. If your Atari is of this sort, make sure the cartridge is in. And that is the end of our assumptions.

The "On" switch is a rocker switch at the rear of the computer on the left. Reach over and switch on (and the TV if necessary). You'll hear some buzzing from the speaker of your TV and then the message READY will appear, together with a rectangular blob, the cursor.

If you're lucky enough to have a disc drive attached, keep it switched off for the moment - you won't need it!

DON'T LET BASIC BUG YOU continued



The READY message is called the prompt. This indicates that the micro is ready for you to type in some information. Try typing in two or three letters - just part of the alphabet for the moment, please.

You should soon see that the cursor indicates the position at which the next letter will be printed on the screen.

Before we type any more, let's examine the keyboard. Fundamentally, it is a standard typewriter keyboard surrounded by several additional keys. Notice that the computer has a 0 (zero) and another key for the letter O.

You must keep the two seperate: 0 for numbers, O for words. I guarantee that a lot of your early errors in programs will be caused by typing O instead of 0!

On the same lines, notice that there is a 1 (one) key. Make sure you do not use I. (Incidently, a lot of your other early errors in your computing career will be from misreading 1 for I and vice-versa.)

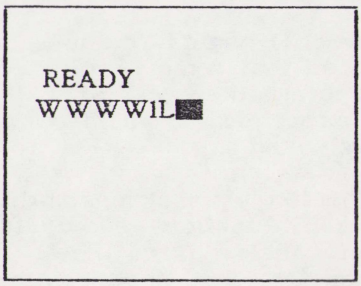
Other keys are labelled by words such as Shift, Esc and Return. Let's introduce a convention to make life easier: If I want you to press the key labelled Return, for instance, I will ask you to press:

[Return]

If I ask you to type RETURN you have to type R, then E, then T and so on. The symbols [] enclosing a word indicate that you are to press one key with that word on it. You do not spell it out.

Now Return is quite an important key. We use it in a similar manner to the return key on an electric typewriter, to ensure that the typing continues on a new line. It is far more important than that, though. Return not only gives you a new line but also sends the message typed into the computer to be acted upon.

If you have been following so far, you should have typed a few letters on your screen so that it looks something like:



If not, type a few letters now. Next, press [Return]. Odds on, you'll get a message back from the computer saying:

DON'T LET BASIC BUG YOU! continued

```
READY
ERROR- WWWW1L
```

Don't worry about the ERROR message. You can't hurt the computer by accidently mistyping something, so feel free to experiment.
All that ERROR means is that the computer doesn't understand the words you've just sent it. You see, it needs to be spoken to in its own language, which is called Basic.
However learning Basic isn't like a genuinely foreign language. Basic is very similar to English but it only allows selected English words - called keywords - to make things simpler for the computer.
This, by the way, is the reason I said that it was odds on you would get ERROR returned from the computer.
You might, by chance, have hit on a Basic word. For example, in Basic you can mark the end of a program with END. The people who designed Basic could have chosen the word FINISH to do this. Type:

END

and press [Return]. Then try:

FINISH

and press [Return]. Note the difference:

```
END

READY
FINISH
ERROR- FINISH
```

Admittedly, END doesn't accomplish very much - after all, you haven't anything in there to end, have you? - but at least the computer doesn't hurl the message ERROR at you as it did with FINISH. This is because END is a Basic word, while FINISH isn't.
So far, your typing should have been appearing in upper case, that is capitals, only. Let's investigate.
If you look at the lower right-hand corner of the keyboard you will see the keys Caps and Shift. All the letters of the alphabet that you type will appear in capitals, unlike a typewriter which prints in lower case unless you hold down the shift key.
In this state, which we call "caps locked", pressing a key with two characters marked on it will cause the lower character to appear on the screen. To obtain the upper character, press the key while at the same time holding Shift down. For example, pressing:

```
&

6
```

will give you 6 on the screen

DON'T LET BASIC BUG YOU! continued

while pressing:

and [Shift] will give you & on the screen.

Here I introduce a convention: If I want you to press two keys at the same time, I join these keys with +. To enable the keyboard to function as a normal typewriter press [Caps]. If you type now, you will find that the alphabet appears as lower case unless you press [Shift] down with it, when it will appear as capitals. Remember, if you want to get onto a new line, just press Return and ignore any resulting ERROR messages.

If you press [Caps] once more you'll be back to the situation when you switched on, with the alphabet appearing in upper case whether you press [Shift] or not.

Press [Caps] once more and the letters once more appear in lower case until shifted and so on.

At the moment the keyboard should be acting like a typewriter - giving upper and lower case. If not, press [Caps] once more.

Get onto a new line by pressing [Return] and type:

end [Return]

You should get ERROR, which proves that, as far as the computer is concerned "end" and "END" are different words. It recognises "END" as the Basic keyword but not "end". This is the reason for the Caps key. If you have this on, you automatically type in letters of the alphabet in capitals, so preventing you from mistakenly entering "end" instead of "END". For the present I am going to assume that all your typing is done with Caps on. If it is not on at the moment (which it won't be if you have been following), just press that key once to rectify the situation.

You've probably noticed that holding a key down for more than a fraction of a second causes that letter to repeatedly type itself out on the screen. If you haven't try it now. This behaviour is know as the auto-repeat.

By now you will have probably filled up a screenful of text and seen the scrolling action demonstrated. If not, press [Return] several times in succession or, more sophisticatedly, hold [Return] down and let the auto-repeat do the work for you. As you'll soon see, scrolling is when the top of the screen rolls up to allow more typing at the bottom.

You could, if you wanted, clear the screen like this, by keeping [Return] down until everything scrolls off the screen.

An easier way to do this is to press the [Shift] key together with the key marked [Clear], which you'll find in the top row of keys on the right. Try it.

You can achieve the same effect by using the [Control] key instead of [Shift]. So [Control] + [Clear] will see the screen off, too.

[Control] is quite an important key. Just as we can combine shift and the alphabet keys to alter

DON'T LET BASIC BUG YOU! continued

what we get in the screen (capitals instead of lower case), so we can combine [Control] and other keys to give special effects.

Try [Control] + 2 the micro should beep at you. We'll look at other uses of Control later.

To conclude this preliminary examination of the keyboard, I suggest that you clear the screen if necessary, then type in a few letters (without pressing [Return]). Now press [Delete] once. The last letter you typed should disappear, its position being taken by the cursor.

If you keep [Delete] down, the auto-repeat will function and erase your whole line. You can use this to correct typing errors. Simply erase back to the mistake and retype.

This is just one form of what is called screen editing. There are other ways, involving the →← ↑ ↓ and [Insert] keys, but these can wait a while.

Right, it's a computer so let's get it to compute. But don't worry, this isn't going to turn into a mathematical treatise. After a brief but necessary foray into simple sums, this article is thoroughly non-mathematical.

We will continue with Mike Bibby's Guide for beginners in next issue.

DISK CONTENT

More programs on issue 18 disk for you to enjoy.

There is ASTROBIO, this is a program that predicts the astrological data and biorhythm.

TANK is a little basic game where you control a tank with the joystick plugged into port one.

VEHREP is a basic program with which you can keep record on your cars mileage and fuel concumption.

CASSETTE.BAS: print your own cassettes labels with this program, handy for audio and computer labels.

DPREM4.PRG: this program is for the DESIGNER's PENCIL by Activision. Program by R.Bradley

LRGDSKLA.BAS prints out large labels for your disks.

There is PICLOADR.BAS to view pictures on screen.

BBKCP.OBJ: gives you almost the same command options with DOS 2.5 as you have with SpartaDOS.

There are three other programs on the disk. The .COM programs run from the menu, except TEASER.OBJ, load DOS without Basic and use the 'L' option.

CHEATING HELP FOR GAMES

CHEAT	GAME
ALL ON LINE ADVENTURES	When you die, press system reset and you can continue, without graphics.
PITFALL	Start game with option key and you will have unlimited lives.
PHAROAH'S PYRAMID	The code word is 'throne'.
SPARE CHANGE	Pressing CTRL-Z will bring you to the zerk control panel.
TRACK ATTACK	On the bax car scene, listen for a click from the keyboard, 1 sec. later, jump.
ENCOUNTER	Press the # of the wave you wish to go to. (you must have reached that level 1st.)
SNOKIE	Same as above ^
LODE RUNNER	CTRL-E will bring you to the editor command menu, from there type 1 letter commands.
SPELUNKER	In sector 28 look for hex string: A6 CB 30 2D change to: A2 07 86 CB this will give you unlimited men.

CHEATING HELP FOR GAMES continued

CHEAT	GAME
DIAMOND MINE	Password: DIAMOND
THRESHOLD	Remove threshold disk from drive after main load, everytime drive starts restarts you will be up 1 level. insert disk when drive is off to Start at that level.
STRIP POKER	Change file OP1.1 to short. Change OP1.5 to OP1.1< 1st girl will load nude.
PHARAOH'S CURSE	Password:SYNISTOPS
CANYON CLIMBER	If you complete the 1st screen and have lost any men, hold down the joy-stick button as the bridges are exploding and then press start. On the next screen, you will have men but your score will be reset.
SOFTPORN	When you tie you are asked to choose 1 or 3 doors, press CTRL-3 and you will live.
MINER 2049'er	To skip level type phone # found on title screen. then press shift and # of level to play.

CHEATING HELP FOR GAMES continued

CHEAT	GAME
HARD HAT MAX	Press option to start game and you will have endless lives.
BURIED BUCKS WILLIE	For atari 1200's press CTRL function 2 to skip levels of play.
NIGHT MISSION	Type the word 'FIX' to get menu to change game options.
HARD HAT MAC	To play different levels press the # of the level while on the title screen.
SNEAKERS	In the asteroid belt, go all the way to the right to avoid all asteroids.
CAVERNS OF MARS	To skip levels press the CTRL, Shift, and Tab key all at once.
PHOBOS	Same as above ^
VANGUARD 5200	To change tunnels Dress the 'T' key and to change zone press the 'Z' key.
ASTROCHASE	To disable music press 'S'.

CHEATING HELP FOR GAMES continued

CHEAT	GAME
BEHIND JAGGED LINES	At about level 10 you may see an alien he will have a green face and will jump in front of your window and screem at you if you don't open the door for him.
SPY VS. SPY	If you put a spring in the right place you can spring yourself through a few doorways
SPY HUNTER	If you die while the 'Bridge out' sign flashes, just stay on the right curb and don't go on the road. This way you can jump the river.
ONE ON ONE	If you make 3 shots in a row the 4th will always sink.
TRACK & FIELD	By hitting a # you can start at any event.
M.U.L.E.	If you go to a mountain that has a flashing dot, you may find a monster that will give you his money.
BLUE MAX	If you bomb your own hanger, the screen will go crazy and it will seem like you are flying in space.

CHEATING HELP FOR GAMES continued

CHEAT	GAME
BALLBLASTER	If you stay next to the edge of the court when going for a score, it will be much harder for your opponent to steal the ball from you.
OLLIES	Type 'FANDA', 'FRANK' or 'ZOOOM' and you will go to higher levels.
FLIGHT SIM. II	To use the following locations, boot flight sim., turn to scenery disk, and hit ESC. then make only these changes.... NEW YORK: N-97071 D-21009 ALT.-17 HEADING-281 GEORGE WASH.BRIDGE N-17054 E-20995 ALT.-23 HEADING-247 LADY LIBERTY: N-17050 E-20974 ALT.-499 PITCH-3D5 BANK-0 HEADING-259 AIRSPD-101 THROTTLE-4096 RUDDER & AILERIONS-32767 FLAPS-0 ELEVATORS-38911

THE SIO2PC INTERFACE

A Product of Nick Kennedy

Reviewed by Alan Sharkis

Member, OL' HACKERS A.U.G., Inc.

I bought a PC clone, a '286 machine, a couple of years ago when it became apparent that I would be doing considerable writing in the next several years. I never intended to give up my Atari, but I needed a couple of things that showed no signs of being possible on the Atari. There was an XEP80 out there, to be sure, and that would certainly help me with my writing. But AtariWriter 80 had not yet been released, and there was no way that I could get decent resolution for 80 columns without hooking up a monochrome monitor as well as the beautiful nineteen inch TV that had served me as a monitor for so many years. File format was another problem. It would be difficult to send my written work to people on Atari disks, even though I knew that Happy modified 1050s (I didn't have one) could produce disks readable on PCs. I was also so spoiled by the keyboard on my 800 that I could never get along with the one on my 130XE, at least not for quick typing. The PC seemed to be a solution. It could help me write, and it could also help me with my Atari. Heck, null-modeming between the two machines became second nature. I also learned that telecommunicating in general was more efficient with the PC, in spite of the best efforts of Bob Puff. So, the two machines are connected through switchboxes to both my printer and my modem and through a null-modem cable with each other. I had read of several modifications to the Atari that seemed to be PC based, including the TransKey, which I might still buy, and the SIO2PC, which I will review here.

The SIO2PC is the brainchild of Nick Kennedy, an engineer who uses PCs at work and has used 8-bit Ataris for a long time at home. Nick was always interested in having machines talk to each other through the SIO daisy chain. Some of his earlier projects involved creating hardware/software to allow a couple of Ataris to network in this way. But the SIO2PC goes way beyond that both in its function and in its utility now and in the future.

Essentially, the SIO2PC consists of files that run on the Atari and on the PC that allow the PC to become a "file server" for the Atari. That's the software end. The hardware is contained in a little box, with two cables coming out. One connects into the SIO daisy chain -- anywhere in the chain. There is minimal electrical drain, so you don't have to put it in as your first peripheral. Mine is connected after a P: R: Connection and two disk drives. The other end plugs into a serial port on your PC -- any serial port. Most PCs come with two of these (COM1 and COM2), the program can support up to COM 4 if you have more ports installed. Since the SIO2PC "takes over" the Atari's SIO operations, you typically run a special file when you boot up the

THE SIO2PC INTERFACE continued

PC that blocks most of this from happening. That way you can use your Atari with the PC turned on. If there is still a problem, you simply disconnect the SIO2PC at the Atari end. I have this problem when I want to print from the Atari or use the Atari with the modem and the PC is powered down. I think I'll investigate a switched Quitopus to avoid wear and tear on my SIO sockets. There is another solution to the printing problem, but more about that later.

A PC, especially a modern one, has a good deal of memory available. Nick Kennedy reasoned that a good chunk of that memory could be used to hold ramdisks for the Atari. Indeed, he has provided in the software the means to create up to four such ramdisks in sizes of 64K, 92K, 143K or 184K in either single or double density. The ramdisks can be formatted, or you can format them with any Atari DOS. I have found that the largest ramdisk in double density will not format for double side with the Sparta X cartridge, but it seems to do so with the disk-based Sparta 3.2D. Perhaps the X anticipates 360K of disk space. However, all forms of formatting (enhanced density works in a single density ramdisk, as expected) seem to work. Once the ramdisks are set up, you can simply load Atari files into them and use the PC as a big ramdisk. The PC in service to the Atari 8-bit? Heck, you ain't seen nothin' yet!

Now, you MIO users out there, kindly keep still for a moment. I know you can do this with the MIO, but this is one of the exciting parts. Suppose you boot your Atari from D1: as you normally do. Then you set up a ramdrive in the PC with the SIO2PC, say D2:, and format it with an Atari DOS, and write DOS files to it. Then you turn off the Atari computer AND D1. You then give the SIO2PC a command to create ramdisk 1 and swap the contents of 1 and 2 (yes, ramdisks can be swapped, once set up.) Now turn on your Atari computer, and it will boot from ramdisk 1! If you use the Sparta X, Ramdisk 1 need only hold a config.sys and an autoexec.bat file, although it can hold considerably more than that. You can boot your favorite DOS and your favorite application. Loading is faster than from a mechanical drive, and SIO sounds are mimicked to let you know what's happening. You can even load your favorite DOS into ramdisk 1 automatically when you start the SIO2PC program. How is this possible?

I told you at the outset that the SIO2PC acts as a "file server" for the Atari. That means that the ramdisks supply the files to the Atari. But those ramdisks can also be saved as ramdisk "images" on any one of your PC's disk drives. Mine happens to have a 65Meg hard drive, nearly full up. But I have saved ramdisk images of my Sparta X boot disk (as described above) and my Atari DOS 2.5 in the same directory as the SIO2PC. You can use the floppy drives in your PC the same way. Mine happens to have high density drives. The 5.25" drive can give

THE SIO2PC INTERFACE continued

me 360K in double density or 1.2Meg in high density. The 3.5" drive can give me 720K in double density or 1.44Meg in high density. If I use the last of these formats, I can save 7-9 ramdisk images per 3.5" disk, giving me storage for all of my Atari disks (7 disk files worth) in one 100 disk filebox. That's become the primary reason for my getting the SIO2PC. I needed a wall-stretcher very badly, and this is really helping. Also, the time may be fast approaching when it will be difficult to get service on Atari drives. I know that it's almost impossible to get service for Indus drives and that the only 1050s and XF551s you can get are now used. With the SIO2PC, you don't even need to turn on your Atari drives, which should cut down on their wear and tear considerably.

I mentioned a problem with printing before, and that there would be an additional solution in this review. Here it comes. Suppose you want to print a file from your Atari. Say you have a word processor running and you need to print to a printer that is connected to your PC. No problem! In fact, several potential problems are eliminated. You simply ask SIO2PC to go into "print-through" mode. It will then take the output of your Atari and direct it to the PC's screen, printer, or a PC disk file. The program will ask if you want the Atari's EOL characters (ASCII 155) changed to carriage returns, and you'll probably say yes, because ASCII 155 in the extended IBM graphics is a cent sign, hardly a combined line feed and carriage return. You'll then be asked if you want to add line feeds. The answer to this depends on how your printer is set up. I need to say yes, or to reconfigure the printer. It's easier to say yes. Finally, the program asks if you want the eighth bit stripped. Those of you who don't know what that means will soon find out! Should your Atari file contain graphics characters or even inverse characters, they will not print normally when in print-through mode. They _WILL_ give you the IBM graphics characters (which will probably be entirely inappropriate) or headaches in the form of printer control codes that will really mess up your work. The easiest solution is to simply strip the eighth bit, which converts all of the characters to normal ones. I have a printer that works in either IBM or Epson emulation, and I make sure it's set for Epson. It's possible that inverse alphabetics on the Atari will give me italics in print-through, but I haven't tried it yet. I have printed Atari files through to my printer with the eighth bit stripped, and to the PC's screen as well. I get nice 80-column screen displays if the Atari text files are set up that way.

There are, of course, several improvements I would like to see in the SIO2PC, but they concern areas at the PC end, and are probably best addressed through software improvements. However, these improvements will likely be dependent on each PC user's configuration and the DOS he or

THE SIO2PC INTERFACE continued

she is using. For example, I would like the SIO2PC to be capable of using expanded or extended memory, although I personally would not do that with my system. I would also like the program to tell me how much room is left on my PC's floppy disk when it tells me the names of files I have already placed there. Otherwise I have to estimate and sometimes miss. That means resaving the ramdisk image on a new, hopefully preformatted floppy and erasing the partial save on the old one with DOS after exiting the program (inconvenient, but not tragic). At the Atari end, I'd like to see a positive shutoff of the device without plugging and unplugging connectors, as I described earlier.

There are a variety of operations possible with the program that I have not talked about because I don't personally use them. For example, there is a status line displayed at the bottom of the PC's screen that tells you what SIO2PC is doing. Because of the way this line writes to the screen, it can cause problems with some PC displays, so there is a way to take it out. The COM port number can be changed. Sometimes a particular user's system needs the data line locked on, and this can be set from the software. Usually it's in auto mode. If you have unusual addresses for the COM ports or wish to use one higher than 4, there is a way to set that address. Ramdisks can be uninstalled, just as they are installed, so that more memory is freed up for others. There is a file included that lets you check your bus timings and then you have the ability to alter them. Most of the time, however, this is not necessary. There is also a file that tells you what COM ports your machine comes with and what their addresses are (in case you don't know). One last file lets you convert PC files into Atari ramdisk images.

There are also lots of nice files that can run on the Atari, including one that you run from Atari DOS that lets you control SIO2PC functions from the Atari. I tried it, and it works, but I have my two machines sitting side-by-side, so I don't use it. Another lets you convert Atari files into PC files instead of Atari disk images. I haven't tried it yet, but it should be useful in some applications.

Nick Kennedy claims that this project is simply a hobby for him, and that he has constructed only about fifty of the units (mine included) and really wants to get away from that aspect of it. Therefore, he has provided three routes for those who want the SIO2PC. You can, of course, get a fully assembled and tested unit from him. You can also download the files, which are on many systems as shareware, and either buy a kit of materials from him using the files to help you construct it, or you can simply go out with the list of materials in the files, purchase the parts, and hardware-hack to your heart's content. Mr. Kennedy suggests a shareware contribution for the files, and charges $35.00 for a kit,

THE SIO2PC INTERFACE
continued

and $49.95 for a fully assembled and tested unit ($2.00 more if you need a DB25 connector at the PC end instead of a DB9). Postage and handling for both kits and assembled units is $5.00. Mr. Kennedy accepts money orders only at this time. He offers full money-back guarantees and upgrades at $5.00. His address is:

N. R. Kennedy
300 S. Vancouver
Russellville, AR 72801

Note: I read a message on FidoNet's Atari 8-bit echo from a somewhat dissatisfied user of the SIO2PC named David Reed. Some of David's points are valid; some I cannot verify. For example, David Reed claims that his copy of the software came complete with a virus. Nick Kennedy is sending out software with a disclaimer about viruses and he puts a file-size message on the screen as a primitive virus-check. If you are the owner of a PC, you should have a virus-checker and use it while any new software is still on floppy. I used mine, and found the files to be virus-free.

A NEW YEAR FOR TWAUG

Doesn't time fly when you enjoy yourself. It is now exactly four years ago, since David asked me (Max), to design a front page for the newsletter. At the time I was experimenting with Daisy-Dot 3, learning to convert PrintShop Icons to DD3 fonts and generally

A NEW YEAR FOR TWAUG continued

get to grips with the program. I did not refuse, I said I would design the front page, not thinking that it would give me sleepness nights. As you probably know, if you are using Daisy-Dot, that setting up something a bit fancy never comes right at the first, second and maybe not even at the third attempt. Well I had a few goes before it printed out as you see the page now.

As I said above, I was just getting slowly used with DD3 and the manual was never far away from my side, I forever consulted it, but by the time I completed the newsletters front page I certainly was an expert in using the program. That is why I wrote the articles about Daisy-Dot in the newsletter, I wanted to share the knowledge gained with you.

Our Logo the bridge was used for the front page on our third issue. That bridge spans the Tyne river and we thought it was appropriate to use as our Logo. It was John who done the drawing and save it as a Print-Shop Icon and I converted it to a Daisy-Dot font.

Well there you are, that was the beginning of the birth of the TWAUG newsletter and after three years we are still going strong. All that is due to all of you subscribers who supported us so well, we thank you very much.

But I knew David rather a bit longer than those four years, it must be now about eight or more

A NEW YEAR FOR TWAUG continued

since he phoned me first. It began when I was desperate to get in touch with a user group, because I was rather struggling to get to grips with my 800XL, which I bought end of 85. All I was doing at that time was playing games or typing in programs from the old Atari User magazines. It was in there that I came across a phone number of a user group. I rang that number and found out that they had moved up to the ST machines, but luckily they had the number of the Newcastle User Group. I rang that number and the secretary told me that, at the next meeting he will mention it and guess what, it was David who phoned. That's how our friendship started and I also got to know John. With John having his own transport, I don't drive any more, he calls in more often, especially to pickup the material for publication.

The last three years has been hard work and time consuming but I certainly have enjoyed every minute of it. With your help we hope we can continue producing many more TWAUG newsletters. So please write to us and share some of your knowledge, about programs and/or hardware with other Atari Users. You could also let us know what you think of the newsletter as a whole, or give us ideas of what we should include, we are always open for suggestions and if you like, your name can be in the newsletter, just think you could become famous. "WOWwwwlll"

I am sorry about waffling on but I got carried away a bit. I thought I give you a brief insight about how I got involved with the newsletter, that's all.

TEXTPRO 5.20x

Anyone interested in TEXTPRO can now update to the latest improved version 5.20x. This version is a READY-TO-RUN two disk set. It includes: all macro files, help files and a completely re-written manual by Dale Wooster. There are six "HOW" files, to help you with setting up and working with Textpro. The manual is over 100 pages long when printed, we are preparing hard copies, they will be in a cover and spiral bound, for a small charge. We cannot include the price of the manual in this issue as we haven't completed the printing and binding. For those going to the AMS'95 show on Saturday the 11th of November, can purchase the disk set plus manual there. Anyone else interested in this updated version can drop us a line and David will get in touch with you.

This version of TextPro will only run on 130XE's or upgraded XL's and with higher upgraded machines. You have 8 Ram Buffers to play with.

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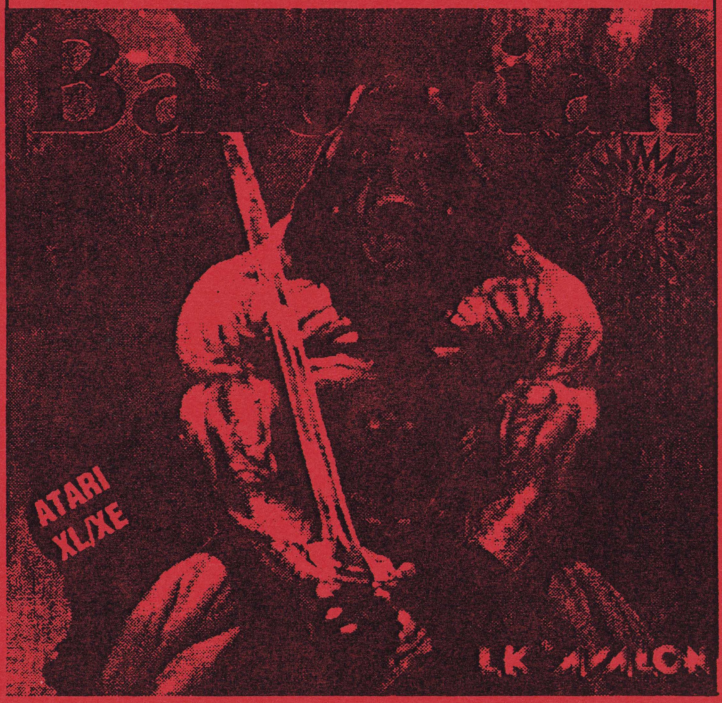

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Swift Spreadsheet (Standard) - £9.95

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(NOTE: New version includes a revised 40 page A4 manual. For details of the standard version and of the program itself, please refer to the review in issue 67 of New Atari User).

Available Soon:

Menu Print: Still under development and currently undergoing its THIRD rewrite! We apologise for the delay but we expect the programming to be definitely completed by the end of September. More details will be published when ready.

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